



Drew Robert Van Orden

Affiliation: RJ Lee Group, Inc.
350 Hochberg Road
Monroeville, PA 15146

Education: MA, Applied Statistics, University of Pittsburgh, 1998
MS, Mineral Process Engineering, Pennsylvania State University, 1979
BA, Meteorology and Oceanography, Millersville State College, 1975

Career/Employment: RJ Lee Group, Inc., 1986 - present
Senior Consulting Scientist
BJL Laboratoires, 1996 – 1997
Directeur Technique
Consulting Engineer, 1985 - 1986
US Steel Technical Center, 1979 - 1985
Research Project Engineer

Summary:

- Conducted site evaluations at mines and quarries
- Conducted studies to determine nature of asbestos and non-asbestos amphibole particles
- Designed and directed studies to assess worker exposures to various materials
- Mined large datasets related to ambient and workplace asbestos concentrations
- Statistical analysis of complex data sets
- Extensive experience in mineral process engineering, including process optimizations and plant automation

Honors, Awards, Fellowships & Memberships

- Registered Professional Engineer, Mineral Engineering, Commonwealth of Pennsylvania
- Society of Mining, Metallurgy, & Exploration, SME/AIME
- ASTM International, ASTM
- American Statistical Association, ASA
- American Industrial Hygiene Association, AIHA
- National Society of Professional Engineers, NSPE
- American Association for the Advancement of Science, AAAS
- The Geological Society of America, GSA
- The Mineralogical Society of America, MSA

Publications

Van Orden, D. R. (2017). "Identification and Analysis of Ambient EMPs", *Toxicology and Applied Pharmacology*, 361, p. 21-26, <https://doi.org/10.1016/j.taap.2018.06.018>.

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Lee, R. J., **Van Orden, D. R.**, Cox, L. A., Arlaukus, S., and Kautz, R. J. (2017). "Response to Harper and Key-Schwartz", *Regulatory Toxicology and Pharmacology*, 83, pp. 103, <https://doi.org/10.1016/j.yrtph.2016.10.019>.

Lee, R., **Van Orden, D.** and Sanchez, M. (2016). "Response to Gordon 2016", *International Journal of Occupational and Environmental Health*, 23, pp. 172-176, <https://doi.org/10.1080/10773525.2016.1227038>.

Lee, R. J., **Van Orden, D. R.**, Cox, L. A., Arlaukus, S., and Kautz, R. J. (2016). "Impact of muffle furnace preparation on the results of crystalline silica analysis", *Regulatory Toxicology and Pharmacology*, 80, pp. 164 – 172, <https://doi.org/10.1016/j.yrtph.2016.06.002>.

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Sahmel, J., Barlow, C., Gaffney, S., Avens, H., Madl, A., Henshaw, J., Unice, K., Galbraith, D., DeRose, G., Lee, R., **Van Orden, D.**, Sanchez, M., Zock, M., and Paustenbach, J. (2016). "Airborne asbestos take-home exposures during handling of chrysotile-contaminated clothing following simulated full shift workplace exposures", *Journal of Exposure Science and Environmental Epidemiology*, 26, pp. 48-62, <https://doi.org/10.1038/jes.2015.15>.

Lee, R. J., Bandli, B. R., Sanchez, M. S., and **Van Orden, D. R.** (2016). "A Proposed Method for TEM Analysis of Elongate Mineral Particles", *ASTM Michael E. Beard Conference: Asbestos and Fibrous Mineral Analysis and Research*, San Antonio, Texas.

McGrath, M., Long, L., Sanchez, M. S., **Van Orden, D. R.** and Lee, R. J. (2015). "Characterization of Structurally Coherent Mineral Intergrowths in Cosmetic Talc", presented at 2015 GSA Annual Meeting, Baltimore, MD, November 4, 2015.

Lee, R. and **Van Orden, D.** (2015). "Letter to the Editor: Asbestos in commercial cosmetic talcum powder as a cause of mesothelioma in women", *International Journal of Occupational and Environmental Health*, 21, pp. 337-341, <https://doi.org/10.1080/10773525.2015.1122370>.

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Ilgren, E. B., **Van Orden, D. R.**, Lee, R., Kamiya, Y., Hoskins, J. A. (2014). “Environmental ‘Low Dose’ Mesotheliomas and Their Relationship to Domestic Exposures-Preliminary Report”, *Environment and Pollution*, 3, pp. 48 – 54, <https://doi.org/10.5539/ep.v3n2p48>.

Block, L., Beckers, D., Ferret, J., Meeker, G., Miller, A., Osterberg, R., Patil, D., Pier, J., Riseman, S., Rutstein, M., Tomaino, G., **Van Orden, D.**, Webber, J., Medwid, J., Wolfgang, S., Moore, K. (2014). “Stimuli to the Revision Process: Modernization of Asbestos Testing in USP Talc”, *Pharmacopeial Forum*, 40, No. 4.

Sahmel, J., Barlow, C., Simmons, B., Gaffney, S., Avens, H., Madl, A., Henshaw, J., Lee, R., **Van Orden, D.**, Sanchez, M., Zock, M., and Paustenbach, J. (2014). “Evaluation of Take-Home Exposure and Risk Associated with the Handling of Clothing Contaminated with Chrysotile Asbestos”, *Risk Analysis*, 34, pp. 1448-1468, <https://doi.org/10.1111/risa.12174>.

Lee, R. J., Sanchez, M., **Van Orden, D. R.**, and Li, L. (2014). “Acceptability of Method Short Cuts in TEM Asbestos Analysis”, presented at Inter/Micro 2014, Chicago, IL, June 2, 2014.

Williams, C., Dell, L., Adams, R., Rose, T., and **Van Orden, D.** (2013). “State-of-the-science assessment of non-asbestos amphibole exposure: Is there a cancer risk?”, *Environmental Geochemistry and Health*, 35, pp. 357-377, <https://doi.org/10.1007/s10653-012-9500-0>.

Van Orden, D. R., Sanchez, M., and Wilmoth, J. M. (2012). “Effect of Sample Preparation on Observed Airborne Fiber Characteristics”, *The Microscope*, 60, pp. 51-61.

Mlynarek, S. P. and **Van Orden, D. R.** (2012). “Asbestos Exposure from the Overhaul of a Pratt & Whitney R2800 Engine”, *Regulatory Toxicology and Pharmacology*, 64, pp. 189-194,
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Van Orden, D. (2011). "Present and Future Impact of the NIOSH Roadmap on a Contract Laboratory for EMP Evaluations", presented at the 2011 SME Annual Meeting, Denver CO, March 2, 2011.

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Van Orden, D. (2010). "Asbestos Analytical Methods: Separating Fact From Fiction", presented at the *Legal Symposium for the Aggregates Industry*, National Stone, Sand & Gravel Association Meeting, Cincinnati, Ohio, February 15, 2010.

Lee, R. J., **Van Orden, D. R.**, and Sanchez, M. (2010). "Common Errors Associated with the Analysis of Tremolitic Talc", presented at 2010 ME Beard Conference, San Antonio, TX, January 28, 2010.

Lee, R. J., **Van Orden, D. R.**, Allison, K. A., and Bunker, K. L. (2009). "Characterization of Airborne Amphibole Particles in Libby, MT", *Indoor and Built Environment*, 18, pp. 524–530, <https://doi.org/10.1177/1420326X09341518>.

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Van Orden, D. (2009). "Evaluation of Talc for Asbestos Content", presented at the 2009 Regulatory Science Summit, Arlington, VA, December 15, 2009.

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Van Orden, D. R., McGrath, D. B., Howard, R. M., and Guerrero, P. (2007). "Applicable Polarized Light Microscopy Method for Asbestos NESHAP Compliance Testing", *The Microscope*, 55, pp. 75-80.

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Lee, R. J., Bowman, G. A., Strohmeier, B. R., **Van Orden, D. R.** (2007). "Limitations of Current Analytical Protocols as They Relate to Public Policy: The Libby, Montana Puzzle", presented at the 2007 Annual Meeting of the American Industrial Hygiene Association, Philadelphia, PA.

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